ODR

RS-A1

DIGITAL "PURE CLASS A" INTEGRATED AMPLIFIER
OPTICAL DIGITAL REFERENCE SYSTEM

AMPLIFICATEUR INTEGRE NUMERIQUE "PURE CLASS A"
SYSTEME DE REFERENCE OPTIQUE NUMERIQUE

RS-A2

DIGITAL "CLASS A" INTEGRATED AMPLIFIER
OPTICAL DIGITAL REFERENCE SYSTEM

AMPLIFICATEUR INTEGRE NUMERIQUE "CLASS A"
SYSTEME DE REFERENCE OPTIQUE NUMERIQUE

PREMIER

PIONEER
The Art of Entertainment

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RS-A2

OWNER'S MANUAL
MODE D'EMPLOI

Thank you for purchasing the PIONEER ODR product. Please read this manual carefully before you start operation.
This manual contains information for the operation of the system. Please keep it in a safe place for future reference.

Please read all instructions and **WARNINGS** in this manual before attempting operation. Should you have any questions contact your nearest Pioneer authorized dealer or installation specialist.

Important
The serial number of this amplifier is written on the bottom of this unit. For your own security and convenience, write it down on the enclosed warranty card. Keep the card handy for future reference.

Nous vous remerions sincèrement pour l'achat de notre produit PIONEER ODR. Nous vous recommandons de lire attentivement ce mode d'emploi avant de commencer à utiliser l'appareil.
Ce mode d'emploi comprend des informations concernant le fonctionnement de ce système. Nous vous prions de le conserver dans un endroit sûr pour une future consultation.

Il est également recommandé de lire toutes les instructions, et tous les **AVERTISSEMENTS** de ce manual avant d'opérer cet équipement. Si vous avez des questions, contactez votre fournisseur Pioneer autorisé le plus proche, ou votre spécialiste pour l'installation.

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The Digital "Pure Class A" Integrated Amplifier RS-A1 or the Digital "Class A" Integrated Amplifier RS-A2 are power amplifiers built into the digital network of the ODR system*. High quality sound can be expected from these classes, since the RS-A1 is a pure class A amplifier and the RS-A2 is a class A amplifier.

Functions:

- 3-band parametric equalizer
  — Q control
- Selectable digital network
  — 36 dB/oct. slope
  — Time alignment
- Parametric bass/treble control
- Listening position selector
- 15 W × 2/60 W × 1 "Pure Class A" Integrated Amplifier (RS-A1)
  50 W × 2/160 W × 1 "Class A" Integrated Amplifier (RS-A2)

> If the RS-A1/RS-A2 is used with a Digital Equalizer RS-P1 or RS-P50, the 31- or 16-band graphic equalizer has priority over the 3-band parametric equalizer of the RS-A1/RS-A2.

> Read the manual of the ODR System Control Center RS-K1 or RS-D2 on how to operate the system.

How to use this manual

❖ Symbols

The following three symbols are used in this manual.

CAUTION — never do this.

This symbol indicates dangerous actions which must be avoided.

Note — follow the instructions carefully.

This symbol indicates action which can cause the equipment to fail if it is wrongly performed.

Additional information.

This symbol indicates that further information is available, for example limits on specifications, cautions on operation, and techniques needed to make full use of the unit.

***ODR System**

ODR = Optical Digital Reference, refers to systems or products using optical digital technology.

Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.
THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE	
90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

Information courtesy of the Deafness Research Foundation.

⚠ WARNING

To prevent electric shock:

- Do not touch the amplifier with wet hands. Otherwise you may get electric shock. Also, do not touch the amplifier when it is wet.

Use moderate volume while driving:

- For traffic safety and to maintain safe driving condition, keep the volume low enough so that you can still hear normal traffic sound.

High temperature of the RS-A1:

- The RS-A1 will remain hot (176 degrees Fahrenheit or higher) during operation of the ODR System and until approximately 10 minutes after use.
  Therefore:
  — Do not touch the amplifier with hands to avoid burns.
  — Do not place objects susceptible to heat (e.g. vinyl products) near the amplifier to avoid deformation of such objects.
  — To ensure proper heat dissipation, never place objects on or around the amplifier.

For safe operation:

- To prevent malfunction and accidents, check the connections of the power supply and speakers if the fuse of the special red battery lead or the amplifier blows. Detect the cause and solve the problem, then replace the fuse with another one of the same size and rating. (The fuse of the special red battery lead has a rating of 30 A for both the RS-A1 and the RS-A2. The fuse of the amplifier has a rating of 20 A for the RS-A1, and 30 A for the RS-A2.)
- To prevent malfunction to the amplifier and speakers, the protective circuit will cut the power supply to the amplifier (sound will stop) when an abnormal condition occurs. In such a case, switch the power of the system OFF, check connection of the power supply and speakers. Detect the cause and solve the problem.
- Contact with your dealer if you cannot detect the cause.

Precautions for connection and installation:

- To prevent electric shock or short-circuit during connection and installation, be sure to disconnect the negative (–) terminal of the battery beforehand.
- Be sure to use the special red battery lead supplied with the amplifier and connect directly to the battery. Use the supplied black ground lead and connect to the vehicle body. (The supplied special red battery and ground leads are designed so that the amplifier can be connected safely.)
- Confirm that no parts are behind the panel when drilling a hole for installation of the amplifier. Be sure to protect all cables and important equipment such as fuel pipes, brake pipes and power supply harness from damage.
- To prevent electric shock, do not install the amplifier to places where it might get in contact with liquids.
- The power consumption of the RS-A1 is very high. To avoid overload to the battery, do not connect more than two RS-A1 amplifiers to an ODR System.
- To ensure proper heat dissipation of the amplifier, take care of the following during installation.
  — Allow adequate space on and around the amplifier for proper ventilation. Particularly, do not block the diffuser of the cooling fan located on the top of the amplifier.
  — Do not cover the amplifier with a floor mat or carpet.

To prevent overload to the battery

- **Do not use the ODR System while the car engine is stopped or during idling of more than 5 minutes. (Switch the power of the system OFF.)**
- **Do not use the ODR System when the battery is low.**
- **The RS-A1 is a sound-quality-oriented "Pure Class A" amplifier. Therefore, the power consumption will be approximately 5 A at low volume. To prevent overload to the battery, do not use the ODR System (switch the power of the system OFF) under the following conditions during which power consumption of the entire car is high.**

  Example 1: Two RS-A1 amplifiers are used and you are in a traffic jam, driving at night, and the rear window defogger is ON.

  Example 2: Two RS-A1 amplifiers are used and you are in a traffic jam, driving at night, and the air conditioner is used at high level.

  Example 3: Two RS-A1 amplifiers are used and you are in a traffic jam, driving at night, and using an accessory with high power consumption.

> The ODR System Control Center checks the supply voltage from the battery. A warning message "LOW BATTERY" will be displayed if the voltage drops below approximately 11 V for more than 10 seconds. In such a case, switch the ODR System OFF until the battery is fully charged. If the system continues to display the warning message after recharging, check the battery.

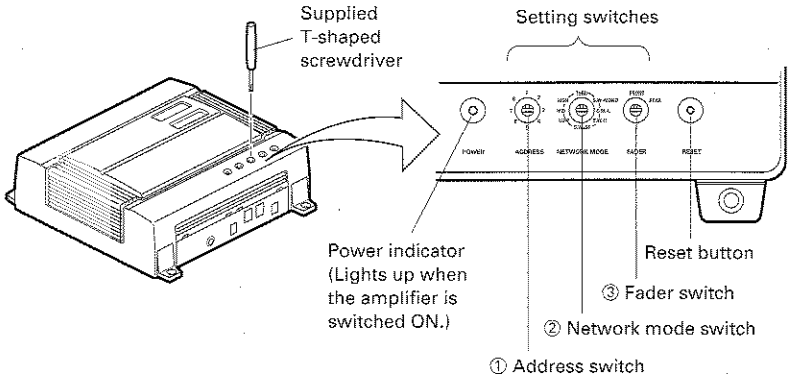
Setting of this unit

This unit has three setting switches: address, network mode and fader. Set these switches according to the purpose of the speakers to be connected to the amplifier. Incorrect setting will result in improper operation of the ODR System.

Switching the setting

1. **Change the setting of the switches using the T-shaped screwdriver supplied with the amplifier.**

   > Keep the supplied T-shaped screwdriver in a safe place.

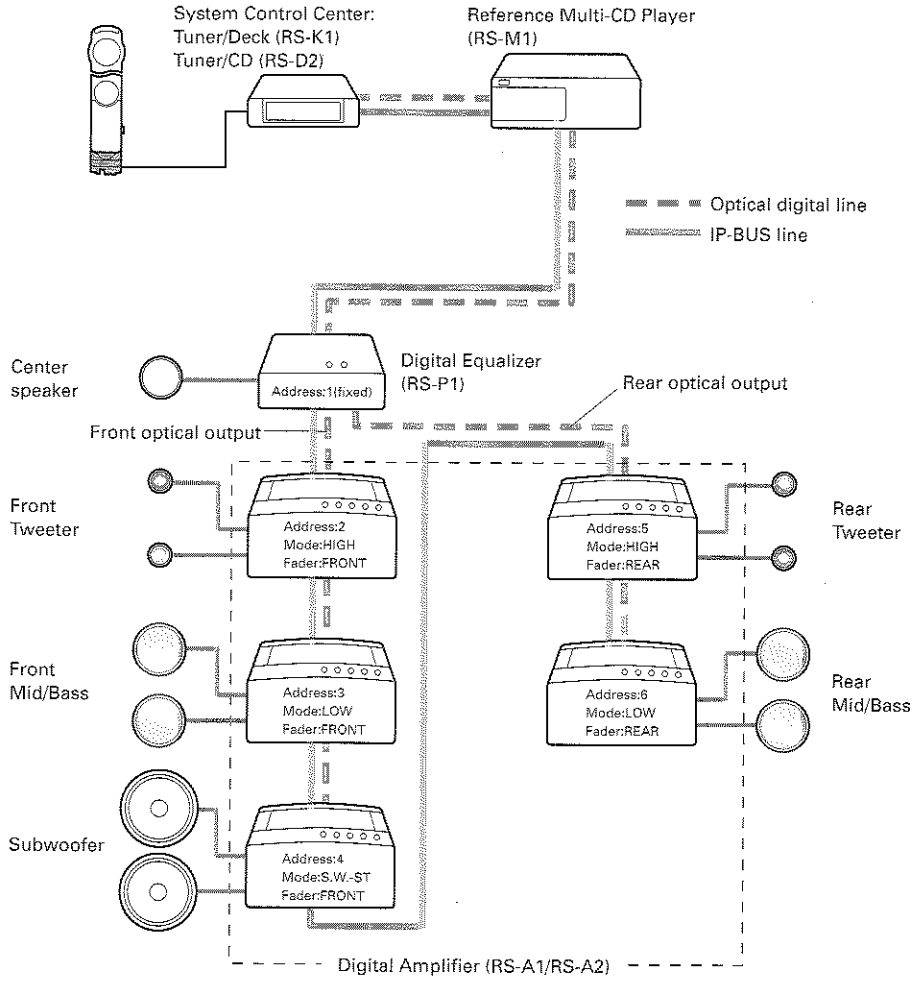


2. **Press the Reset button.**

   Always press the Reset button after changing a setting switch (see "Reset Button" on page 13). Otherwise the new setting will not be registered.

Setting Example

> Read the manual of the ODR System Control Center for specific setting examples.
> To ensure better sound quality, PIONEER recommends to connect the speakers to the Digital Amplifier in the sequence of high-range, mid-range, low-range, and subwoofer modes. Also, connect the subwoofer to the front OUT. (Although the subwoofer is connected to the front OUT, it may be installed to either front or rear.)
> The current consumption of the RS-A1 is very high. To avoid overload to the battery, do not connect more than two RS-A1 amplifiers to an ODR System. Also, PIONEER recommends to set the RS-A1 to the front tweeter and front mid-range.



① Address setting

Multiple audio units* such as the RS-A1/RS-A2 Amplifier and Digital Equalizers can be connected to the ODR System. Therefore, each audio unit must be assigned an address as identification number (1 to 8).
Set the address according to the following rules:

- Set a unique address to each audio unit.
- The first audio unit must be assigned to Address 1.
- If the Digital Equalizer RS-P1 is included among the audio units, it must be assigned as Address 1. Therefore, assign Addresses 2 to 8 to other audio units.

> The RS-P1 is fixed to Address 1, and this setting cannot be changed.

- If the Digital Equalizers RS-P50 is used instead of the RS-P1, assign Address 1 to one of the RS-P50 equalizers.

② Network mode setting

Set the mode for the network according to the purpose of the speakers to be connected.

THRU mode (Frequency: 20 — 20,000Hz)

Set to this mode when the speaker to be connected will be used in full-range.

> In this mode, the functions of the network are disabled.
> This mode is invalid if the RS-P1 or RS-P50 Digital Equalizer is used in the ODR System.
> When using the ODR System in this mode, other digital amplifiers (RS-A1/RS-A2) must also be set to THRU mode.

S.W. - MONO (subwoofer monaural) mode (Frequency: 20 — 250Hz)

Set to this mode when the speaker to be connected will be used as subwoofer to output monaural sound.

S.W. - L (subwoofer L channel) mode (Frequency: 20 — 250Hz)

Set to this mode when the speaker to be connected will be used as subwoofer to output L (left) channel sound.

S.W. - R (subwoofer R channel) mode (Frequency: 20 — 250Hz)

Set to this mode when the speaker to be connected will be used as subwoofer to output R (right) channel sound.

S.W. - ST (subwoofer stereo) mode (Frequency: 20 — 250Hz)

Set to this mode when the speakers to be connected will be used as subwoofers to output stereo sound.

***Audio units**

By definition, audio units are Digital Amplifiers, Digital Equalizer and other audio equipment for the ODR System including the following:
— Dual 1/3 Octave Digital Equalizer [RS-P1]
— Universal Digital Preamp/Equalizer [RS-P50]
— Digital "Pure Class A" Integrated Amplifier [RS-A1]
— Digital "Class A" Integrated Amplifier [RS-A2]

LOW (low-range) mode (Frequency: 25 — 10,000Hz)

Set to this mode when the speaker to be connected will be used in low-range. The speaker can be used in full-range by adjusting the network frequency. Read the manual of the ODR System Control Center for more detail.

MID (mid-range) mode (Frequency:200 — 20,000Hz)

Set to this mode when the speaker to be connected will be used in mid-range.

HIGH (high-range) mode (Frequency:1,600 — 20,000Hz)

Set to this mode when the speaker to be connected will be used in high-range.

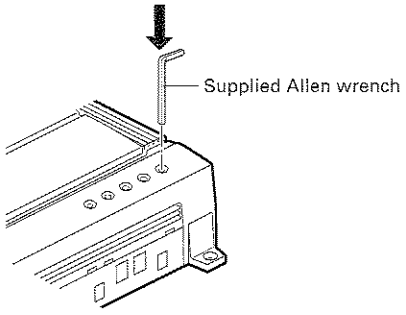
③ Fader setting

Select to connect either FRONT or REAR speakers. However, the setting of the fader will be invalid when the network mode is set to subwoofer. In such a case, no fader setting is required.

Reset Button

After specifying a new setting with a setting switch, press the Reset button with the supplied Allen wrench. Also, press the Reset button after an error has occurred to the built-in microprocessor.

> Connect the RS-A1/RS-A2 amplifier to the power supply before pressing the Reset button. Otherwise, the amplifier may not be reset.
> Keep the supplied Allen wrench in a safe place.

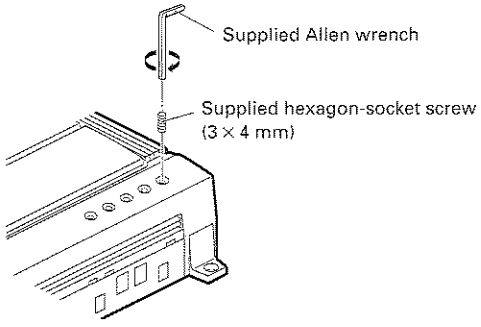


For the audio unit assigned to Address 1:

- **Do not press the Reset button imprudently when an error has occurred to the audio unit assigned to Address 1. Keep in mind that pressing the Reset button for the audio unit of Address 1 will reset all other audio units such as the network, equalizer, etc. In such a case, contact your dealer before pressing the Reset button.**
- **When pressing the Reset button for the audio unit assigned to Address 1, press also the Reset buttons for all the other audio units.**

❖ Protection for the Reset button

To prevent accidental pressing after setting and adjusting all audio units, install the supplied hexagon-socket screw onto the Reset button.



To prevent malfunction:

- **Install the hexagon-socket screw so that the screw head becomes flush with the rim of the screw hole.**

Connecting the Units

⚠ CAUTION

To prevent short-circuit

- Secure the wiring with cable clamps or adhesive tape. To protect the wiring, wrap adhesive tape around them where they lie against metal parts.
- Do not route wires where they will get hot, for example where the heater will blow over them. If the insulation heats up, it may become damaged, resulting in a short-circuit through the vehicle body.
- Make sure that wires will not foul moving parts of the vehicle, such as the gearshift, handbrake or seat sliding mechanism.

⚠ CAUTION

To avoid accidents

- Do not shorten any leads. Otherwise the protection circuit may fail to work when it should.
- Never feed power to other equipment by cutting the insulation of the power supply lead to tap from the lead. The current capacity of the lead will be exceeded, causing overheating.
- Be sure to use the special red battery lead supplied with the amplifier and connect directly to the battery. Use the supplied black ground lead and connect to the vehicle body. (The supplied special red battery and ground leads are designed so that the amplifier can be connected safely.)

To prevent overload to the battery

- The power consumption of the RS-A1 is very high. To avoid overload to the battery, do not connect more than two RS-A1 amplifiers to an ODR System.

To prevent damage

- **Do not use the Digital Fiber Optic Cable CD-D60 and CD-D15 when using more than four optical cables in the entire ODR System. Otherwise no sound may be output.**
- **When disconnecting a connector, pull the connector itself. Do not pull the lead itself, as it may come away from the connector.**
- **Do not ground the speaker lead directly to the vehicle body. Do not connect multiple negative (–) speaker leads to a single terminal. Doing so may result in no sound from the speakers. Increasing the sound volume in this state may blow the fuse of the amplifier.**
- **Speakers to be connected to the RS-A1/RS-A2 amplifier should conform with the standards listed below. Otherwise damage will be caused to the speaker.**

Model	Speaker		Standards	
	Channel	Type	Power	Impedance
RS-A1	2-channel	Subwoofer	Nominal input: Min. 15 W	1~8Ω
		Other than subwoofer	Max. input: Min. 30 W	
	1-channel	Subwoofer	Nominal input: Min. 60 W	
		Other than subwoofer	Max. input: Min. 60 W	
RS-A2	2-channel	Subwoofer	Nominal input: Min. 50 W	2~8Ω
		Other than subwoofer	Max. input: Min. 100 W	
	1-channel	Subwoofer	Nominal input: Min. 160 W	
		Other than subwoofer	Max. input: Min. 200 W	

To ensure grounding

> To ensure connection of the ground lead, remove paint with sandpaper if it must be connected to a painted portion.

To prevent noise

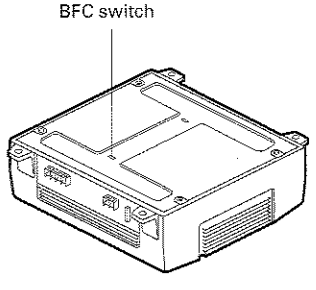
> Install and route the special red battery lead supplied with the amplifier as faraway as possible from the IP-BUS and speaker leads. Install and route the battery lead, ground lead, IP-BUS and speaker leads, and the RS-A1/RS-A2 amplifier as faraway as possible from the antenna, antenna cable and tuner.

Connection of the IP-BUS and optical digital line

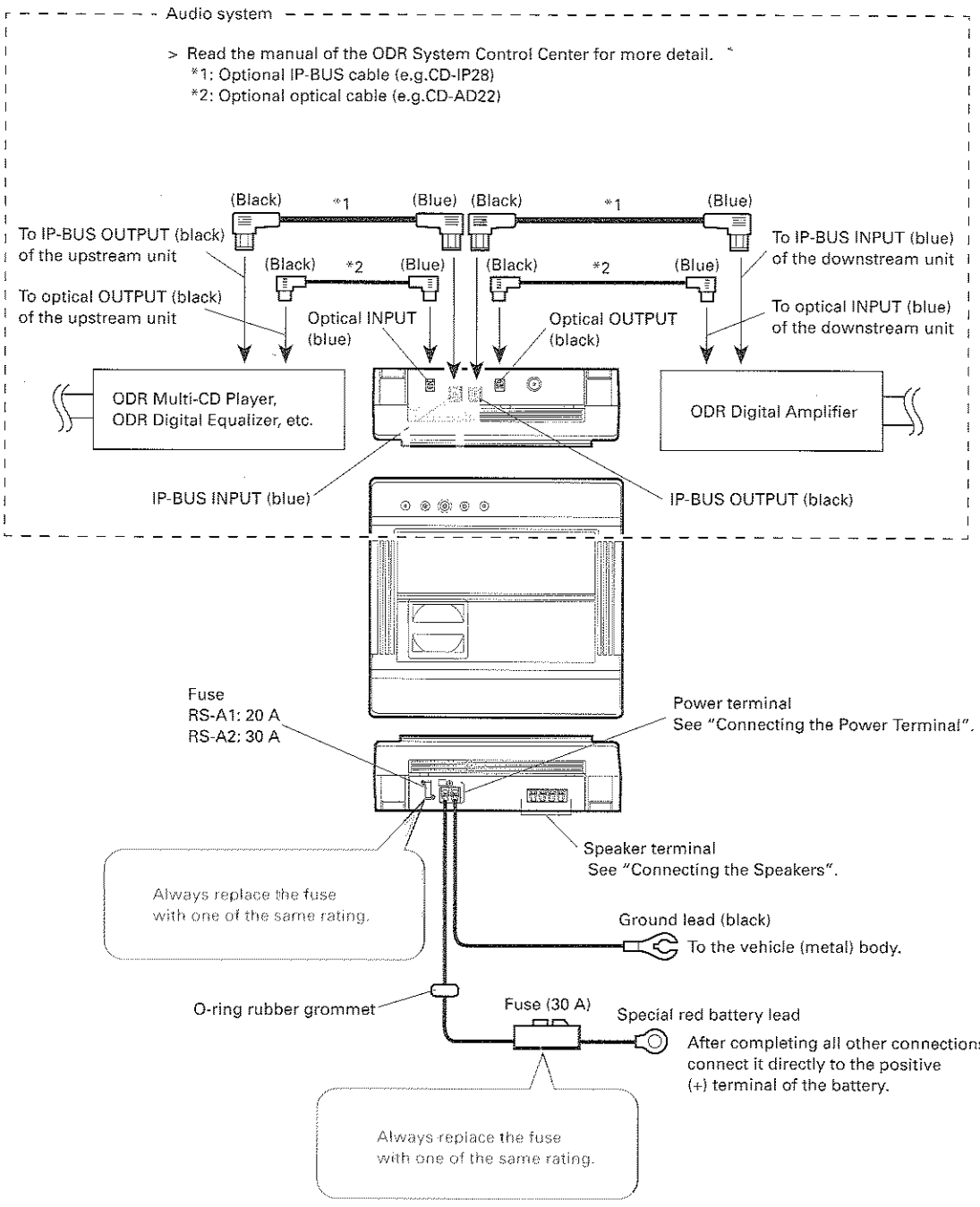
> To prevent incorrect connection, the input side of the IP-BUS and optical digital line connector is colored in blue, and the output side in black. Connect the connectors of the same colors correctly. (The portions to be connected of the IP-BUS connector are colored.)

When AM broadcasts produce beat noise

> Change the BFC switch which is located at the bottom of the amplifier between L and H.



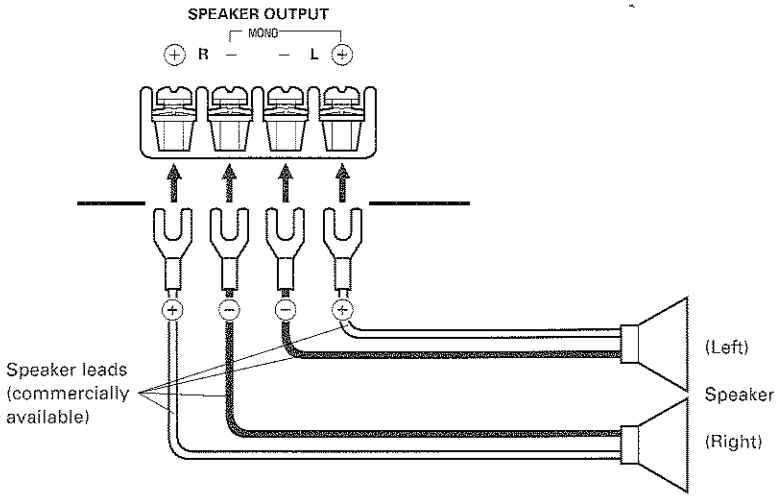
Connection Diagram


Audio system
> Read the manual of the ODR System Control Center for more detail.
*1: Optional IP-BUS cable (e.g.CD-IP28)
*2: Optional optical cable (e.g.CD-AD22)
(Black)
*1
(Blue)
(Black)
*1
(Blue)
To IP-BUS OUTPUT (black) of the upstream unit
(Black)
*2
(Blue)
(Black)
*2
(Blue)
To IP-BUS INPUT (blue) of the downstream unit
To optical OUTPUT (black) of the upstream unit
Optical INPUT (blue)
Optical OUTPUT (black)
To optical INPUT (blue) of the downstream unit
ODR Multi-CD Player, ODR Digital Equalizer, etc.
ODR Digital Amplifier
IP-BUS INPUT (blue)
IP-BUS OUTPUT (black)
Fuse
RS-A1: 20 A
RS-A2: 30 A
Power terminal
See "Connecting the Power Terminal".
Speaker terminal
See "Connecting the Speakers".
Always replace the fuse with one of the same rating.
Ground lead (black)
To the vehicle (metal) body.
O-ring rubber grommet
Fuse (30 A)
Special red battery lead
After completing all other connections, connect it directly to the positive (+) terminal of the battery.
Always replace the fuse with one of the same rating.

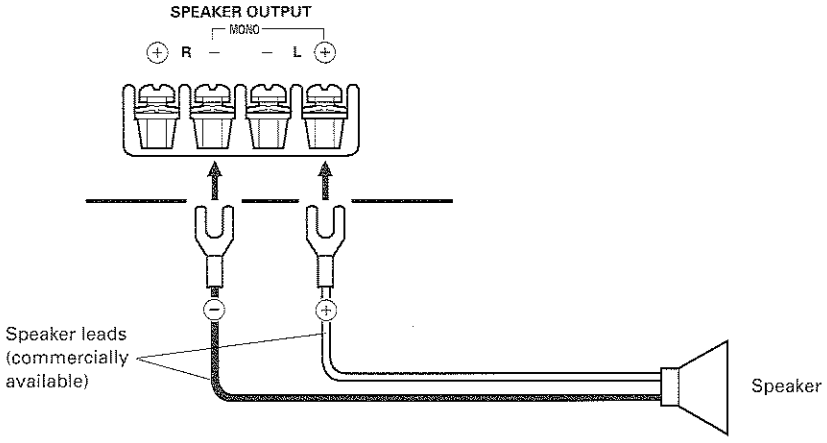
Connecting the Speakers

With the RS-A1/RS-A2 amplifier, speaker output can be set to either 2-channel (stereo) or 1-channel (monaural). Connections for 2-channel and 1-channel are different. For correct connection, do not mix up the polarity (+/–) and right (R) and left (L) speakers.

❖ Connection for 2-channel (stereo)

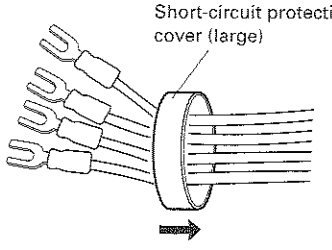


❖ Connection for 1-channel (monaural)

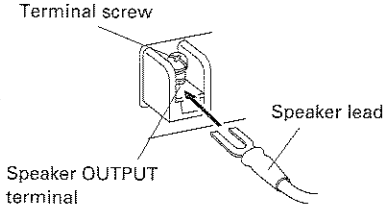


❖ Connecting the speaker terminal

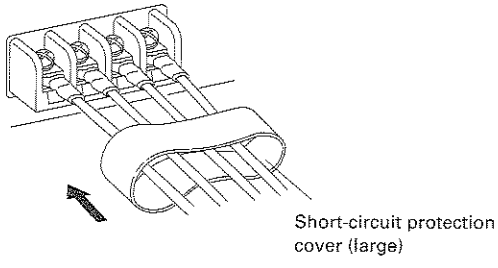
1. **Put the short-circuit protection cover (large) around the speaker leads.**
   - **Be sure to use this cover to prevent short-circuit.**



2. **Connect the speaker leads to the speaker terminal.**
   - **Fasten the speaker leads firmly with terminal screws.**



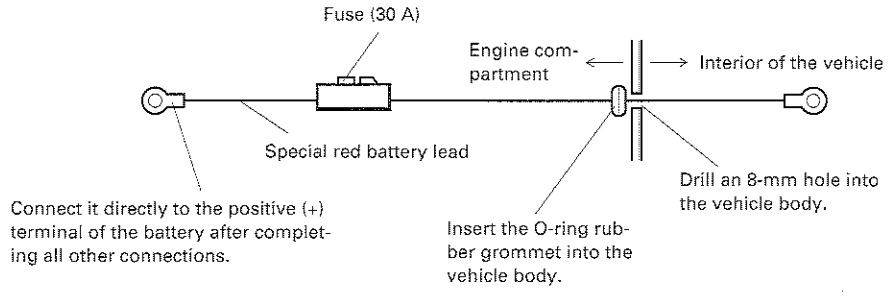
3. **Cover the entire terminal with the short-circuit protection cover (large).**



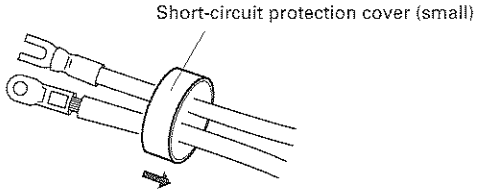
Connecting the Power Terminal

- **Be sure to use the special red battery lead supplied with the amplifier and connect directly to the battery. Use the supplied black ground lead and connect to the vehicle body. (The supplied special red battery and ground leads are designed so that the amplifier can be connected safely.)**

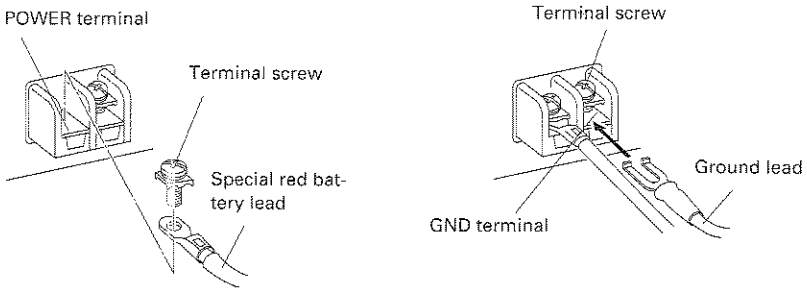
1. **Pass the special red battery lead from the engine compartment to the interior of the vehicle.**
   - **To prevent short-circuit, do not connect the special red battery lead to the battery before all other connections are completed.**


Fuse (30 A)
Engine compartment
Interior of the vehicle
Special red battery lead
Drill an 8-mm hole into the vehicle body.
Connect it directly to the positive (+) terminal of the battery after completing all other connections.
Insert the O-ring rubber grommet into the vehicle body.

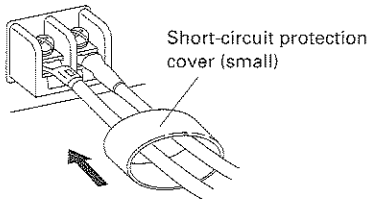
2. **Put the short-circuit protection cover (small) around the special red battery and ground leads.**
   - **Be sure to use this cover to prevent short-circuit.**



3. **Connect the special red battery lead to the POWER terminal (+), and the ground lead to the GND terminal (–).**
   - **Securely fasten the special red battery and ground leads with terminal screws.**



4. **Cover the entire terminal with the short-circuit protection cover (small).**



Installation

CAUTION

To avoid accidents

- Install the RS-A1/RS-A2 amplifier in the luggage compartment.
  Do not install in:
  — Places where it could injure the driver or passengers if the vehicle stops suddenly.
  — Places where it may interfere with the driver, such as on the floor in front of the driver's seat.
- Make sure that leads are not caught in the sliding mechanism of the seats, resulting in a short-circuit.
- Confirm that no parts are behind the panel when drilling a hole for installation of the amplifier. Protect all cables and important equipment such as fuel pipes, brake pipes and power supply harness from damage.
- Install tapping screws in such a way that the screw tip does not touch any lead. This is important to prevent leads from being cut by vibration of the car, which can result in fire.
- To prevent electric shock, do not install the amplifier to places where it might get in contact with liquids.
- To ensure proper installation, use the supplied parts in the manner specified. If any parts other than the supplied ones are used, they may damage internal parts of the amplifier, or they may become loose and the amplifier may come off.

To prevent malfunction

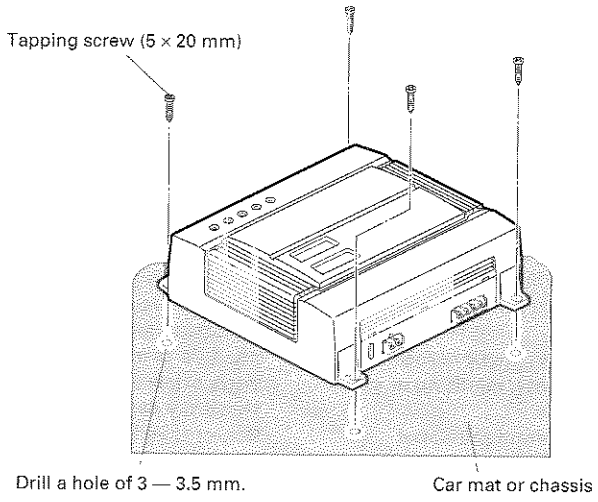
- To ensure proper heat dissipation of the amplifier, take care of the following during installation.
  — Allow adequate space on and around the amplifier for proper ventilation.
  Particularly, do not block the diffuser of the cooling fan located on the top of the amplifier.
  — Do not cover the amplifier with a floor mat or carpet.
- Do not install the amplifier on unstable places such as the spare tire board.

Before installing and securing:

> Make temporary connections first and check that the amplifier and the system operate properly. If the amplifier or the system does not operate, see "Troubleshooting" (page 25) to check for incorrect connections.

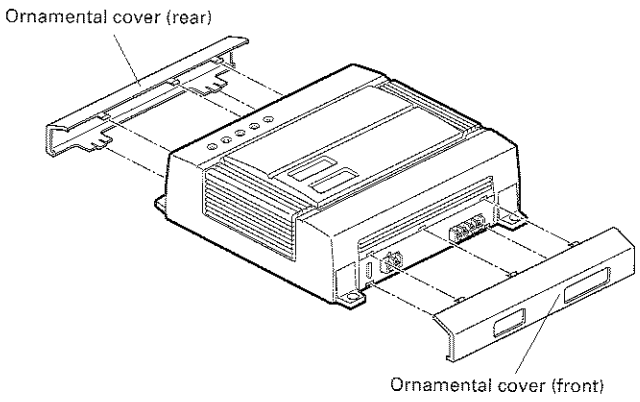
> After installing the amplifier, confirm that the spare tire, jack and tools can be taken out smoothly.

Installing the unit



Attaching the cover

Attach the ornamental cover, if necessary.



Troubleshooting

When an error occurs, locate the cause according to the list below. In most cases, the problem is incorrect connections or settings.

1. **Doublecheck the connections and settings using the Checklist.**
2. **If connections and settings are correct, press the Reset button.**
   See "Reset Button" on page 13.
3. **If the malfunction continues even after pressing the Reset button:**

In case of trouble

When the unit does not operate properly, contact your dealer or the nearest authorized PIONEER Service Station.
In the United States please call 1-800-421-1404 for product information or your nearest service center or 1-800-228-7221 for information on parts.

Checklist

Symptom	Cause	Remedy	See:
No operation (no sound).	The battery is not connected.	Connect the battery.	—
	The special red battery lead is incorrectly connected.	Connect the special red battery lead correctly to the positive (+) terminal of the battery.	18 21 22
	The ground lead is incorrectly connected.	Connect the black ground lead correctly to the metal part of the vehicle body.	
	The fuse is blown.	Remove the cause and replace with another fuse of the same rating.	7 18
	Incorrect connection.	Make sure all the connectors are properly connected.	18
	The speaker lead is disconnected.	Connect the speaker lead properly.	19, 20
	The address, network mode and fader setting switches are incorrectly set.	Set the address, network mode and fader setting switches correctly, then press the Reset button.	9~13
Unnatural sound.	Wrong polarity (+/–) of the speaker lead.	Follow the polarity indicated at the speaker OUTPUT terminal.	19 20

Specifications

GENERAL

Power source ..... DC 14.4 V (10.8 — 15.6 V allowable)
Grounding system ..... Negative type
Current consumption (RS-A1) ..... 7.5 A (4 Ω, Continuous power)
4.0 A (4 Ω, No signal)
(RS-A2) ..... 13.0 A (4 Ω Continuous power)
1.5 A (4 Ω, No signal)
Average current consumption* (RS-A1) ..... 7.5 A (4 Ω, 2 channels/1 channel)
(RS-A2) ..... 6.0 A (4 Ω, 2 channels)
12.0 A (4 Ω, 1 channel)
Fuse (RS-A1) ..... Main unit: 20 A
Special battery lead: 30 A
(RS-A2) ..... Main unit: 30 A
Special battery lead: 30 A
Dimensions ..... 280 (W) × 86.5 (H) × 260 (D) mm
[11 (W) × 3 (H) × 10–1/4 (D) in.]
Weight ..... 5.4 kg (11.9 lbs.)

POWER AMPLIFIER (RS-A1)

Maximum power output ..... 30 W × 2/60 W × 1
Continuous power output ..... 15 W × 2 (20 Hz — 20 kHz, 0.01%, 4 Ω)
30 W × 2 (20 Hz — 20 kHz, 0.04%, 2 Ω)
50 W × 2 (20 Hz — 20 kHz, 0.08%, 1 Ω)
60 W × 1 (20 Hz — 20 kHz, 0.04%, 4 Ω)
100 W × 1 (20 Hz — 20 kHz, 0.08%, 2 Ω)
Frequency response ..... 5 Hz — 100 kHz (+0, –1 dB)
Distortion ..... 0.002% (at 10 W, 1 kHz)
Signal-to-noise ratio ..... 102 dB (IHF-A network)
Load impedance ..... 4 Ω (1 — 8 Ω allowable)
Slew rate ..... 27 V/µsec.
Separation ..... 80 dB (100 Hz — 10 kHz)
Damping factor 600
Headroom margin ..... 0 dB

POWER AMPLIFIER (RS-A2)

Maximum power output ..... 100 W × 2/200 W × 1
Continuous power output ..... 50 W × 2 (20 Hz — 20 kHz, 0.01%, 4 Ω)
80 W × 2 (20 Hz — 20 kHz, 0.04%, 2 Ω)
160 W × 1 (20 Hz — 20 kHz, 0.04%, 4 Ω)
Frequency response ..... 5 Hz — 100 kHz (+0, –1 dB)
Distortion ..... 0.002% (at 10 W, 1 kHz)
Signal-to-noise ratio ..... 106 dB (IHF-A network)
Load impedance ..... 4 Ω (2 — 8 Ω allowable)
Slew rate ..... 30 V/µsec.
Separation ..... 75 dB (100 Hz — 10 kHz)
Damping factor 600
Headroom margin ..... 0 dB

DSP/PREAMP

Tone controls (parametric)
- Bass frequency ..... 63 Hz, 100 Hz, 160 Hz, 250 Hz
- Treble frequency ..... 4 kHz, 6.3 kHz, 10 kHz, 16 kHz
- Level ..... ±12 dB

3-band parametric equalizer
- Frequency ..... 20 Hz — 20 kHz, 1/3 oct.
- Level ..... ±12 dB
- Q factor 1.8/2.6/4.3

Network (selectable)
- SUBWOOFER ..... HPF frequency: 20 Hz — 100 Hz, 1/3 oct.
  LPF frequency: 25 Hz — 250 Hz, 1/3 oct.
  Level: +10 dB — –24 dB (0.5 dB)
- LOW ..... HPF frequency: 25 Hz — 250 Hz, 1/3 oct.
  LPF frequency: 250 Hz — 10 kHz, 1/3 oct.
  Level: 0 dB — –24 dB (0.5 dB)
- MID ..... HPF frequency: 200 Hz — 10 kHz, 1/3 oct.
  LPF frequency: 2 kHz — 20 kHz, 1/3 oct.
  Level: 0 dB — –24 dB (0.5 dB)
- HIGH ..... HPF frequency: 1.6 kHz — 20 kHz, 1/3 oct.
  LPF frequency: 8 kHz — 20 kHz, 1/3 oct.
  Level: 0 dB — –24 dB (0.5 dB)
- Slope ..... PASS, –6, –12, –18, –24, –30, –36 dB/oct.
  (HPF of MID and HIGH doesn't have PASS mode)
- Phase ..... NORMAL/REVERSE
- Time alignment ..... 0 — 10 msec.

Position adjustment ..... Time: 0 — 10 msec.
Level: 0 — –30 dB

Sampling frequency ..... 44.1 kHz
Digital input ..... Optical input
Digital output ..... Optical output

> These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo Manufacturers.
> The specifications and design are subject to change without prior notice.
Products purchased may differ from illustrations of this manual.

***Average current consumption:**

The average current consumption is an average, which is close to the maximum current consumption of this unit when music signals are input. Use this average to calculate total current consumption when using multiple amplifiers.

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